PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.:	10/700,276	Confirmation No.: To be assigned
Applicant:	Liotta *et al.*	
Filed:	November 3, 2003	
TC/A.AU.:	To be assigned	
Examiner:	To be assigned	
Docket No.:	18085.105094 EMU 108 DIV3 CON	
Customer No.:	20786	
Title:	Antiviral Activity and Resolution of 2-Hydroxymethyl-5-(5-Fluorocytosin-1-yl)-1,3-Oxathiolane	

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Transmittal of Information Disclosure Statement

Sir:

The citation of information on the attached Form PTO-1449 is made pursuant to 37 C.F.R. §§ 1.56, 1.97, and 1.98. Copies of references AY, AAC, AAD, AAE, AAF, AAG, AAH, BQ, CI, CJ, CK, CM, DB, DK, FA, GD, and GG are enclosed; copies of the remaining references were cited in the parent application U.S.S.N. 08/475,339, which issued as 6,642,245 on October 21, 2003. The Examiner's attention is also drawn to copending applications U.S.S.N. 09/007,502 and 10/795,046. The citation of this information does not constitute an admission of priority or that any cited item is available as a reference, or a waiver of any right the applicant may have under applicable statutes, Rules of Practice in patent cases, or otherwise.

Because this Information Disclosure Statement is being submitted before the receipt of a first Office action on the merits, the Applicants do not believe that any additional fees are due; however, the Commissioner is hereby authorized to charge any fees due or credit any overpayment to Deposit Account No. 11-0980.

Respectfully submitted,

Madeline I. Johnston
Reg. No. 36,174

Date: April 30, 2004
King & Spalding, LLP
191 Peachtree Street, N.E., Atlanta, GA 30303
Office: (404)572-4600/ Fax: 404-572-5145

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on April 30, 2004.

Tisha Hardrick

Please type a plus sign (+) inside this box → ☐

PTO/SB/08A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Submitted for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Sheet	1	of	7

Complete if Known	
Application Number	10/700,276
Filing Date	November 3, 2003
First Named Inventor	Liotta *et al.*
Group Art Unit	Unassigned
Examiner Name	Unassigned
Attorney Docket Number	18085.105094 EMU 108 DIV3 CON

344533 1 3.DOC

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No. [1]	U.S. Patent Document Number	Kind Code (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pgs, Clmns, Lns, Where Relevant Passages/Relevant Figs Appear
	AA	4,000,137	A	Dvonoch, et al.	12-28-1976	
	AB	4,336,381	A	Nagata, et al.	06-22-1982	
	AC	4,861,759	A	Mitsuya, et al.	08-29-1989	
	AD	4,879,277	A	Mitsuya, et al.	11-07-1989	
	AE	4,900,828	A	Belica, et al.	02-13-1990	
	AF	4,916,122	A	Chu, et al.	04-10-1990	
	AG	4,963,533	A	de Clercq, et al.	10-16-1990	
	AH	5,011,774	A	Farina et al.	04-30-1991	
	AI	5,041,449	A	Belleau, et al.	08-20-1991	
	AJ	5,047,407	A	Belleau, et al.	09-10-1991	
	AK	5,059,690	A	Zahler, et al.	10-22-1991	
	AL	5,071,983	A	Koszalka et al.	12-10-1991	
	AM	5,179,104	A	Chu, *et al.*	01-12-1993	
	AN	5,185,437	A	Koszalka, *et al.*	02-09-1993	
	AO	5,204,466	A	Liotta, *et al.*	04-20-1993	
	AP	5,210,085	A	Liotta, *et al.*	05-11-1993	
	AQ	5,234,913	A	Furman, Jr.	08-10-1993	
	AR	5,248,776	A	Chu, *et al.*	09-28-1993	
	AS	5,270,315	A	Belleau, *et al.*	12-14-1993	
	AT	5,276,151	A	Liotta	01-04-1994	
	AU	5,444,063	A	Schinazi	08-22-1995	
	AV	5,466,806	A	Belleau, *et al.*	11-14-1995	
	AW	5,486,520	A	Belleau, *et al.*	01-23-1996	
	AX	5,532,246	A	Belleau, *et al.*	07-02-1996	
	AY	5,538,975	A	Dionne	07-23-1996	
	AZ	5,539,116	A	Liotta, *et al.*	07-23-1996	
	AAA	5,587,480	A	Belleau, *et al.*	12-24-1996	
	AAB	5,618,820	A	Dionne	04-08-1997	
	AAC	5,814,639	A	Liotta *et al.*	09-29-1998	
	AAD	5,914,331	A	Liotta *et al.*	06-22-1999	
	AAE	6,114,343	B1	Liotta *et al.*	09-05-2000	
	AAF	2002/0143194	A1	Liotta *et al.*	10-03-2002	
	AAG	6,642,245	B1	Liotta *et al.*	11-04-2003	
	AAH	6,703,396	B1	Liotta *et al.*	03-09-2004	

Examiner Signature		Date Considered	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Unique citation designation number. [2] See attached Kinds of U.S. Patent Documents. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

Please type a plus sign (+) inside this box → ☐

PTO/SB/08A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Submitted for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Sheet	2	of	7

Complete if Known	
Application Number	10/700,276
Filing Date	November 3, 2003
First Named Inventor	Liotta *et al.*
Group Art Unit	Unassigned
Examiner Name	Unassigned
Attorney Docket Number	18085.105094 EMU 108 DIV3 CON

3445331 3.DOC

FOREIGN PATENT DOCUMENTS

Examiner Initials	Cite No. [1]	Foreign Patent Document Office [3]	Number	Kind Code [2] (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T [6]
	BA	AU	7300491	A1	Liotta et al.	08-21-1991		
	BB	AU	665187		Emory University	12-21-1995		
	BC	AU	630913		Biochem Pharma Inc.	11-12-1992		
	BD	EP	0 217 580		Wellcome Foundation Ltd	04-08-1987		
	BE	EP	0 337 713		Biochem Pharma Inc.	10-18-1989		
	BF	EP	0 350 811		E.R. Squibb & Sons, Inc.	01-17-1990		
	BG	EP	0 357 009		G.D. Searle & Co.	03-07-1990		
	BH	EP	0 361 831		Wellcome Foundation Ltd	04-04-1990		
	BI	EP	0 375 329		Wellcome Foundation Ltd	06-27-1990		
	BJ	EP	0 382 526		IAF Biochem Int'l Inc.	08-16-1990		
	BK	EP	0 421 636		E.R. Squibb & Sons, Inc.	04-10-1991		
	BL	EP	0 433 898		Abbott Laboratories	06-26-1991		
	BM	EP	0 494 119		IAF Biochem Int'l Inc.	07-08-1992		
	BN	EP	0 515 144		Biochem Pharma Inc.	11-25-1992		
	BO	EP	0 515 156		Biochem Pharma Inc.	11-25-1992		
	BP	EP	0 515 157		Biochem Pharma Inc.	11-25-1992		
	BQ	EP	0 517 145	A1	Glaxo Group Ltd.	12-09-1992		
	BR	EP	0 526 253		Biochem Pharma Inc.	02-03-1993		
	BS	JP	2-69469			03-08-1990		
	BT	JP	2-69476			03-08-1990		
	BU	JP	07109221		Wellcome Foundation Ltd	11-22-1995		
	BV	NL	8901258		Stichting Rega te Leuven	12-17-1990		
	BW	NZ	238017	A	Biochem Pharma	06-27-1994		
	BX	WO	88/07532		Holmes; Nycomed A.S.	10-06-1988		
	BY	WO	90/12023		Walker, *et al.*	10-18-1990		
	BZ	WO	91/11186	A1	Emory University	08-08-1991		
	BAA	WO	91/17159		IAF Biochem. Int'l Inc.	11-14-1991		
	BAB	WO	92/08727		Consiglio Naz. d. Ric.; Menarini Ric. Sud S.P.A.	05-29-1992		
	BAC	WO	92/10496		U. Georgia Res. Found.	06-25-1992		
	BAD	WO	92/10497		U. Georgia R.F.; Emory	06-25-1992		
	BAE	WO	92/14729	A1	Emory University	09-03-1992		

Examiner Signature		Date Considered	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Unique citation designation number. [2] See attached Kinds of U.S. Patent Documents. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

Please type a plus sign (+) inside this box → ☐

PTO/SB/08A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Submitted for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Sheet 3 of 7

Complete if Known	
Application Number	10/700,276
Filing Date	November 3, 2003
First Named Inventor	Liotta *et al.*
Group Art Unit	Unassigned
Examiner Name	Unassigned
Attorney Docket Number	18085.105094 EMU 108 DIV3 CON

3445331 3.DOC

FOREIGN PATENT DOCUMENTS

Examiner Initials	Cite No. [1]	Foreign Patent Document Office [3]	Number	Kind Code [2] (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T [6]
	CA	WO	92/14743	A2	Emory University	09-03-1992		
	CB	WO	92/15308		Wellcome Foundation Ltd	09-17-1992		
	CC	WO	92/15309		Wellcome Foundation Ltd	09-17-1992		
	CD	WO	92/18517		Yale U.; U. Georgia R. F.	10-29-1992		
	CE	WO	92/21676		Glaxo Group Ltd.	12-10-1992		
	CF	WO	94/04154		U. Georgia R.F.; Emory	03-03-1994		
	CG	WO	94/09793		Emory University	05-11-1994		
	CH	WO	94/14802		Biochem Pharma Inc.	07-07-1994		
	CI	WO	95/29174	A1	Glaxo Group Ltd	11-02-1995		
	CJ	WO	00/09494	A1	Triangle Pharm.; Emory Univ.	02-24-2000		

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T [6]
	CK	ANNUNZIATA, R., *et al.*, "Diastereoselective addition of a silylketene acetal to chiral α-thioaldehydes," *Tetrahedron Letters*, 1990:6733 (1990).	
	CL	BALZARINI, J., *et al.*, "Potent and Selective Anti-HTLV-IIFLAV Activity of 2',3'-Dideoxycytidinene, the 2',3'-Unsaturated Derivative of 2',3'-Dideoxycytidine," *Biochemical and Biophysical Research Communications,* 140(2): 735-742 (1986)	
	CM	BARTLETT, P.A., *et al.*, "Asymmetric synthesis via acetal templates. 3. On the stereochemistry observed in the cyclization of chiral acetals of polyolefinic aldehydes: Formation of optimally active homoallylic alcohols", *J. Amer. Chem. Soc.*, 105:2088-2089 (1983).	
	CN	BASCHANG, *et al.*, "The enantiomers of 1 .beta.-adenyl-2.alpha.-hydroxy-3.beta. -(hydroxymethyl)cyclobutane," *Tetrahedron:Asymmetry,* 3(2):193-6 (1992)	
	CO	BELLEAU, B., *et al.*, "Design and Activity of a Novel Class of Nucleoside Analogs Effective Against HIV-I," *International Conference on AIDS,* Montreal, Quebec, Canada, June 4-9, 1989	
	CP	BORTHWICK, A.D., *et al.*, "Synthesis and Enzymatic Resolution of Carbocyclic 2'-Ara-Fluoro Guanosine: A Potent New Anti-Herpetic Agent," *J. Chem. Soc. Cornmun.*, 10:656-658 (1988)	
	CQ	CARTER, *et al.*, "Activities of(-)-Carbovir and 3'-Azido-3'-Deoxythymidine Against Human Immunodeficiency Virus In Vitro," *Antimicrobial Agents and Chemotherapy,* 34(6): 1297-1300 (1990)	

Examiner Signature		Date Considered	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Unique citation designation number. [2] See attached Kinds of U.S. Patent Documents. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

Please type a plus sign (+) inside this box → ☐

PTO/SB/08A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Submitted for form 1449/PTO				*Complete if Known*	
				Application Number	**10/700,276**
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Filing Date**	**November 3, 2003**
				First Named Inventor	**Liotta *et al.***
				Group Art Unit	Unassigned
				Examiner Name	Unassigned
Sheet	4	of	7	Attorney Docket Number	**18085.105094 EMU 108 DIV3 CON**

3445331 3.DOC

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
	DA	CHANG, C.-N., *et al,* "Deoxycytidine Deaminase-resistant Steroisomer Is the Active Form of (±)-2',3'-Dideoxy-3'-thiacytidine in the Inhibition of Hepatitis B Virus Replication," *The Journal of Biological Chemistry,* 267(20): 13938-13942 (1992).	
	DB	CHU, C.K., *et al.,* "A general synthetic method for 2',3'-dideoxynucleosides: Total synthetic approach," *Nucleosides & Nucleotides,* 8(5&6):903-906 (1989).	
	DC	CHU, C.K., *et al.,* "An Efficient Total Synthesis of 3'-Azido-3'-Deoxythiymidine (AZT) and 3'-Azido-2',3'-Dideoxyuridine (AZDDU, CS-87) from D-Mannitol," *Tetrahedron Lett.,* 29(42):5349-5352 (1988)	
	DD	CHU, *et al.,* "Comparative Activity of 2',3'-Saturated and Unsaturated Pyrimidine and Purine Nucleosides Against Human Immunodeficiency Virus Type 1 in Peripheral Blood Mononuclear Cells," *Biochem· Pharm.,* 37(19):3543-3548 (1988)	
	DE	CHU, *et al.,* "Structure-Activity Relationships of Pyrimidine Nucleosides as Antiviral Agents for Human Immunodeficiency Virus Type 1 in Peripheral Blood Mononuclear Cells," *J. Med. Chem.,* 32:612 (1989)	
	DF	CONDREAY, *et al.,* "Evaluation of the Potent Anti-Hepatitis B Virus Agent (-) *cis*-5-Fluoro-1-[2-(Hydroxymethyl)-1,3-Oxathiolan-5-yl]Cytosine in a Novel In Vivo Model," *Antimicrobial Agents and Chemotherapy,* 616-619 (1992)	
	DG	CONNOLLY, *et al.*, "Minireview: Antiretroviral Therapy: Reverse Transcriptase Inhibition," *Antimicrobial Agents and Chemotherapy,* 36(2):245-254 (1992)	
	DH	CRETTON, E., *et al.,* "Catabolism of 3'-Azido-3'-Deoxythymidine in Heptaocytes and Liver Microsomes, with Evidence of Formation of 3'-Amino-3'-Deoxythymidine, a Highly Toxic Catabolite for Human Bone Marrow Cells," *Molecuilar Pharmacology,* 39:258-266 (1991)	
	DI	CRETTON, E., *et al.,* "Pharmokinetics of 3'-Azido-3'-Dexoythymidine and its Catabolites and Interactions with Probenecid in Rhesus Monkeys," *Antimicrobial Agents and Chemotherapy,* 35(5):801-807 (1991)	
	DJ	DOONG, Shin-Lian., *et al.,* "Inhibition of the Replication of Hepatitis B Virus *in vitro* by 2',3'-Dideoxy-3'-Thiacytidine and Related Analogues," *Natl. Acad. Sci. USA,* 88:8495-8499 (1991)	
	DK	EVANS, D.A., *et al.*, "New procedure for the direct generation of titanium enolates. Diastereoselective bond constructions with representative examples," *J. Amer. Chem. Soc.*, 112:8215-8216 (1990).	
	DL	FEORINO, *et al.,* "Prevention of activation of HIV-1 by antiviral agents in OM-10.1 cells," *Antiviral Chem. & Chemotherapy,* 4(1):55-63 (1993)	
	DM	FRICK, *et al.,* "Pharmacokinetics, Oral Bioavailability, and Metabolic Disposition in Rats of (-)-*cis*-5-Fluoro-l-[2-(Hydroxymethyl)-l,3-Oxathiolan-5-yl] Cytosine, a Nucleoside Analog Active against Human Immunodeficiency Virus and Hepatitis B Virus," *Antimicrobial Agents and Chemotherapy,* 37(11):2285-2292 (1993)	

Examiner Signature		Date Considered	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Unique citation designation number. [2] See attached Kinds of U.S. Patent Documents. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

Please type a plus sign (+) inside this box → ☐

PTO/SB/08A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Submitted for form 1449/PTO				*Complete if Known*	
				Application Number	10/700,276
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Filing Date	November 3, 2003
				First Named Inventor	Liotta *et al.*
				Group Art Unit	Unassigned
				Examiner Name	Unassigned
Sheet	5	of	7	Attorney Docket Number	18085.105094 EMU 108 DIV3 CON

344533I 3.DOC

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
	EA	FURMAN, *et al.*, *"The* Anti-Hepatitis B Virus Activities, Cytotoxicities, and Anabolic Profiles of the (-) and (+) Enantiomers *of cis*-5-Fluoro-1-[2-(Hydromethyl)-1,3-Oxthiolane-5-yl]Cytosine," *Antimicrobial Agents and Chemotherapy,* 36(12):2686-2692 (1992)	
	EB	HERDEWIJN, *et al.*, "Resolution of Aristeromycin Enantiomers," *J. Med. Chem.,* 28:1385-1386 (1985).	
	EC	HOONG, *et al,* "Enzyme-Mediated Enantioselective Preparation of Pure Enantiomers of the Antiviral Agent 2',3'-Dideoxy-5-fluoro-3'-thiacytidine (FTC) and Related Compounds," *J. Org. Chem.,* 57:5563-5565 (1992)	
	ED	ITO, *et al.,* "Chirally Selective Synthesis of Sugar Moiety of Nucleosides by Chemicoenzymatic Approach: L- and D-Riboses, Showdomycin, and Cordycepin," *J.* Am. *Chem. Soc.,* 103:6739-6741 (1981)	
	EE	JANSEN, *et al.,* "High-Capacity In Vitro Assessment of Anti-Hepatitis B Virus Compound Selectivity by a Virion-Specific Polymerase Chain Reaction Assay," *Antimicrobial Agents and Chemotherapy,* 441-447 (1993)	
	EF	JEONG, L., *et al.,* "Asymmetric Synthesis and Biological Evaluation of β-L-(2R,5S)- and a-L (2R-5R)-1,3-Oxathiolane-Pyrimidine and -Purine Nucleosides and Potential Anti-HIV Agents," *J. Med. Chem.,* 36(2):181-195 (1993)	
	EG	KRENITSKY, *et al.,* "An Enzymic Synthesis of Purine D-arabinonucleosides," *Carbohydrate Research,* 97:139-146 (1981)	
	EH	KRENITSKY, T.A., *et al.,* "3'-Amino-2',3'-Dideoxyribonucleosides of Some Pyrimidines: Synthesis and Biological Activities," *J. Med. Chem.,* Vol. 26 (1983)	
	EI	LIN, *et al.,* "Potent and Selective In Vitro Activity of 3'-Deoxythmindine-2-Ene-(3'-Deoxy-2',3'-Didehydrothymidine) Against Human Immunodeficiency Virus," *Biochem. Pharm.,* 36(17):2713-2718 (1987)	
	EJ	MAHMOUDIAN, *et al.,* "Enzymatic Production of Optically Pure *(2'R-cis)-2'*-deoxy-*3'* thiacytidine (3TC, Lamivudine): A Potent Anti-HIV Agent," *Enzyme Microb. Technol.,* September 1993, Vol. 15, 749-755, published by the Glaxo Group Research	
	EK	MEI-HUEI, *et al., Journal of Acquired Immune Deficiency Syndromes,* 6:24-31 (1993)	
	EL	MITSUYA, H., *et al.,* "3'-Azido-3'-Deoxythymidine (BW A 509U): An Antiviral Agent that Inhibits the Infectivity and Cytopathic Effect of Human T-Lymphotropic Virus Type III/Lymphadenopathy-Associated Virus *In Vitro, Proc. Natl. Acad. Sci., USA,* 82:7096-7100 (1985)	
	EM	MITSUYA, H., *et al.,* "Molecular Targets for AIDS Therapy," *Science,* Vol. 249, pp. 1533-1544 (1990)	
	EN	MITSUYA, H., *et al.,* "Rapid in Vitro Systems for Assessing Activity of Agents Against HTLV-III/LAV," *AIDS: Modern Concepts and Therapeutic Challenges,* S. Broder, Ed. pp. 303-333, Marcel-Dekker, New York (1987)	

Examiner Signature		Date Considered	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Unique citation designation number. [2] See attached Kinds of U.S. Patent Documents. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

Please type a plus sign (+) inside this box → ☐

PTO/SB/08A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Submitted for form 1449/PTO				*Complete if Known*	
				Application Number	10/700,276
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Filing Date	November 3, 2003
				First Named Inventor	Liotta *et al.*
				Group Art Unit	Unassigned
				Examiner Name	Unassigned
Sheet	6	of	7	Attorney Docket Number	18085.105094 EMU 108 DIV3 CON

3445331 3.DOC

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
	FA	NICOLAU, K.C., *et al.*, "Stereoselective 1,2-migrations in carbohydrates. Stereocontrolled synthesis of α- and β-2-deoxyglycosides," *J. Amer. Chem. Soc.* 108(9):2466-2469 (1986).	
	FB	NORBECK, D., *et al.*, "A New 2',3'-Dideoxynucleoside Prototype with In Vitro Activity Against HIV," *Tetrahedron Lett.*, 30(46):6263-6266 (1989)	
	FC	OHNO, *et al.*, "Synthetic Studies on Biologically Active Natural Products by a Chemicoenzymatic Approach," *Tet. Letters*, 40:145-152 (1984)	
	FD	OKABE, M., *et al.*, "Synthesis of the Dideoxynucleosides ddC and CNT from Glutamic Acid, Ribonolactone, and Pyrimidine Bases," *J. Org. Chem.*, 53(20):4780-4786 (1988)	
	FE	PAFF, *et al.*, "Intracellular Metabolism of (-)- and *(+)-cis*-5-Fluoro- l-[2-(Hydroxymethyl)- 1,3-Oxathiolan-5-yl]Cytosine in HepG2 Derivative 2.2.15 (Subclone P5A) Cells," *Antimicrobial Agents and Chemotherapy*, 1230-1238 (1994)	
	FF	PIRKLE *et al.*, "Chiral Stationary Phases for the Direct LC Separation of Enantiomers," *Advances in Chromatography*, Giddings, J.C., *et al.*, eds.: Marcel Dekker: New York, 1987; Vol. 27, Chap. 3, pp. 73-127	
	FG	RICHMAN, D. D., *et al.*, *"The* Toxicity of Azidothymidine (AZT) in the Treatment of Patients with AIDS and AIDS-Related Complex," *N. Eng. J. Med.*, 317(4): 192-197 (1987)	
	FH	ROBERTS, *et al.*, "Enzymic Resolution of cis- and trans-4-hydroxycyclopent-2-enylmethanol..." *J. Chem.. Soc.*, Perkin Trans. 1, (10):2605-7 (1991)	
	FI	SAARI, *et al.*, "Synthesis and Evaluation of 2-Pyridinone Derivatives as HIV-1-Specific Reverse Transcriptase Inhibitors, 2. Analogues of 3-Ammopyndm-2(1*H*)-one, *J. Med. Chem.*, 35:3792-3802 (1992)	
	FJ	SATSUMABAYASHI, S. *et al.*, *"The* Synthesis of 1,3-Oxathiolane-5-one Derivatives," *Bull, Chem. Soc. Japan*, 45:913-915 (1972)	
	FK	SAUNDERS, "Non-Nucleoside Inhibitors of HIV Reverse Transctiptase: Screening Successes-Clinical Failures," *Drug Design and Discovery*, 8:255-263 (1992)	
	FL	SCHINAZI, R.F., *et al.*, "Activities of the Four Optical Isomers of 2',3'-Dideoxy-3'-Thiacytidine (BCH-I89) against Human Immunodeficiency Virus Type 1 in Human Lymphocytes," *Antimicrobial Agents and Chemotherapy* 36(3):672-676 (1992)	
	FM	SCHINAZI, R.F., *et al.*, "Insights into HIV Chemotherapy," *AIDS Research and Human Retroviruses* 8(6):963-990 (1992)	
	FN	SCHINAZI, R.F., *et al.*, "Pharmacokinetics and Metabolism of Racemic 2',3'-Dideoxy-5-Fluoro 3'-Thiacytidine in Rhesus Monkeys," *Antimicrobial Agents and Chemotherapy* 36(11):2432-2438 (1992)	
	FO	SCHINAZI, R.F., *et al.*, "Selective Inhibition of Human Immunodeficiency Viruses by Racemates and Enantiomers of *cis*-5-Fluoro-1-[2-(Hydroxymethyl)-1,3-Oxathiolan-5-yl]Cytosine," *Antimicrobial Agents and Chemotherapy* 36(11):2423-2431 (1992)	

Examiner Signature		Date Considered	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Unique citation designation number. [2] See attached Kinds of U.S. Patent Documents. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → ☐

PTO/SB/08A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Submitted for form 1449/PTO				*Complete if Known*	
				Application Number	10/700,276
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Filing Date	November 3, 2003
				First Named Inventor	Liotta *et al.*
				Group Art Unit	Unassigned
				Examiner Name	Unassigned
Sheet	7	of	7	Attorney Docket Number	18085.105094 EMU 108 DIV3 CON

3445331 3.DOC

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
	GA	SCHINAZI, R.F., *et al.*, "Substrate Specificity of *Escherichia Coli* Thymidine Phosphorylase for Pyrimidine Nucleoside with an Anti-Human Immunodeficiency Virus Activity," *Biochemical Pharmacology* 44(2): 199-204 (1992)	
	GB	SECRIST, *et al.*, "Resolution of Racemic Carbocyclic Analogues of Purine Nucleosides Through the Action of Adenosine Deaminase Antiviral Activity of the Carbocyclic 2'-Deoxyguanosine Enantiomers," *J. Med. Chem.*, Vol. 30, pp. 746-749 (1987)	
	GC	SHEWACH, *et al.*, "Affinity of the antiviral enantiomers of oxathiolane cytosine nucieosides for human 2'-deoxycytidine kinase," *Biochem. Pharmacol.*, 45(7): 1540-1543 (1993)	
	GD	SOUDEYNS, H., *et al.*, "Anti-Human Immunodeficiency Virus Type 1 Activity and In Vitro Toxicity of 2'-Deoxy-3'-Thiacytidine (BCH- 189), a Noval Heterocyclic Nucleoside Analog," *Antimicrobial Agents and Chemotherapy*, 35(7):1386-1390 (1991).	
	GE	STERZYCKI, R.Z., *et al.*, "Synthesis and anti-HIV activity of several 2'-fluoro-containing pyrimidine nucleosides," *J. Med. Chem.*, 33(8):2150-2157 (1990)	
	GF	STORER, R., *et al.*, *"The* Resolution and Absolute Stereochemistry of the Enantiomeris of *cis*-1-[2-(Hydromethyl)- 1,3-Oxathiolan-5-yl)cytosine (BCH 189): Equipotent Anti-HIV Agents," *Nucleosides & Nucleotides*, 12(2):225-236 (1993).	
	GG	TAKANO, A., *et al.*, "A facile cleavage of benzylidene acetals with diisobutylaluminum hydride," *Chemistry Letters* 1983:1593-1596 (1983).	
	GH	VAN ROEY, *et al.*, "Solid State Conformation of Anti-Human Immnosudeficiency Virus Type 1 Agents: Crystal Structures of Three 3'-Azido-3'-deoxythymidine Analogues," *J. Am.Chem. Soc.*, 110:2277-2782 (1988)	
	GI	VORBRÜGGEN, *et al*, "Nucleoside Synthesis with Trhnethylsilyl Triflate and Perchlorate as Catalysts," *Chem. Ber.*, 114:1234-1255 (1981)	
	GJ	WILSON, *et al.*, "The 5'-Triphosphates of the (1) and (+) Enantiomers *of cis*-5-Fluoro-l-[2-(Hydroxymethyl)-1,3-Oxathiolane-5-yl]Cytosine Equally Inhibit Human Immunodeficiency Virus Type 1 Reverse Transcriptase," *Antimicrob. Agents and Chemother.*, 37(8): 1720-1722 (1993).	
	GK	WILSON, L.J., *et al.*, "A General Method for Controlling Glycosylation Stereochemistry in the Synthesis of 2'-Deoxyribose Nucleosides," *Tetrahedron Lett.*, 31(13): 1815-1818 (1990).	
	GL	WILSON, L.J., *et al.*, *"The* Synthesis and Anti-HIV Activity of Pyrimidine Dioxolanyl Nucleosides," *Bioorganic & Medicinal Chemistry Letters*, 3(2):169-174 (1993).	
	GM	WINSLOW, *et al.*, *"In vitro* susceptibility of clinical isolates of HIV-1 to XM323, a non peptidyl HIV protease inhibitor," *AIDS*, 8:753-756 (1994).	
	GN	ZHU, Zhou, *et al.*, "Cellular Metabolism of 3'-Azido-2',3'-Dideoxyuridine with Formation of 5'-O-Diphophoshexase Derivatives by Previously Unrecognized Metabolic Pathways of 2'-Deoxyuridine Analogs," *Molecular Pharmacology*, 1990:929-938 (1990).	

Examiner Signature		Date Considered	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Unique citation designation number. [2] See attached Kinds of U.S. Patent Documents. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.